REMARKS

Claims 1, and 10-33 are pending in this application. Claims 2-9 and 34-36 have been cancelled in prior amendments. Claims 37-45 have been withdrawn from consideration by the Examiner, as set forth in the November 9, 2001 Office Action. Independent claims 1, 10, and 23 have been amended.

The Examiner has rejected claims 10, 12, 14, and 17-19 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 5,983,220 to Schmidt and claims 1, 20-16, 19-20, 23-29, and 33 under 35 U.S.C. 102(e) as allegedly being anticipated by U.S. Patent No. 6,240,374 to Cramer. Additionally, the Examiner has rejected claims 1, 10-16, 20, 23-28, and 32-33 under 35 U.S.C. § 102(b) as allegedly being anticipated by Grethe et al. Additionally, the Examiner has rejected claims 23-24 and 30-31 under 35 U.S.C. § 103(a) as allegedly being obvious over "either Grethe [cited in applicants' IDS] or Cramer" in view of Schmidt. Applicants have amended the independent claims and, for the reasons below, submit that the claims as amended are patentable over the prior art of record.

Schmidt and Grethe are directed to processes for searching databases. Cramer is directed to a process for creating a search in a virtual library. None of these references teaches or suggests a *join*, much less the novel similarity join that is disclosed and claimed in the present application. An electronic search of the Schmidt and Cramer patents reveals that the word "join" does not appear in either of these documents. (The Grethe reference is not available to applicants' attorney electronically; however, based on a visual scan of the Grethe reference by applicants' attorney, it does not appear that the word "join" appears in the Grethe reference.)

In order to anticipate under Section 102, a reference must disclose each and every element of the claimed invention. Each of the independent claims has been amended to recite a join performed on two databases. Claims 1 and 23 recite a "chemical similarity join" on a first database and a second database. Claim 10 recites a "fuzzy similarity join" on a first database and a second database. Schmidt and Grethe disclose searching a database and Cramer discloses searching a virtual library. As is known in the

art, a join links rows of one database table with rows of another database table based on a relationship between the columns in the two (or more) tables. See Application, p. 6, lines 9-14 ("join ... is a term of art ... A join links rows of one table with the rows of another"), p. 24, lines 23-26 ("A join associates the rows in one table to those in another based on relationships between values of certain columns for the records."). The invention provides a join that uses a novel similarity predicate – i.e., a novel similarity relationship between the rows of one table and the rows of another table – to combine two database tables.

Simply stated, Schmidt, Grethe and Cramer relate to a search and not to a join. A search can be performed on a single database table. A join, however, is performed by combining plural database tables. The prior art does not teach, or even suggest, a join, nor any other type of linking or combining of the rows of plural database tables. The only combining of tables that disclosed in the prior art of record is Cramer's "merging libraries." (See Cramer, col. 54, l. 5 through col. 55, l. 34.) However, this merger is not a "join" – Cramer's merger merely inserts rows of one library into another library. There is no "linking of rows of one table with rows of another," which is characteristic of a join.

Since each of the independent claims, as amended, recites a join, and since the prior art discloses "searching," the prior art does not anticipate the features recited in the independent claims of the present invention. Moreover, as to independent claim 23 which has been rejected on obviousness grounds, Applicants submit that the obviousness rejection has been rendered moot by the amendment, since the Examiner has not set forth any explanation as to how the *search* taught in the prior art renders obvious the claimed *join* of plural database tables. Applicants submit, for the reasons advanced above, that the claimed join of plural database tables is not obvious over the *search* taught in the prior art.

Additionally, the Examiner appears to argue at page 3 of the Office Action that claim 10 reads on the prior art because it allegedly covers the searching of a single database. In view of the amendments, and in view of Applicants' arguments above, claim 10 requires that a join be performed on two database tables. Applicants thus submit that

claim 10, as amended, addresses the Examiner's concern regarding the searching of a single database.

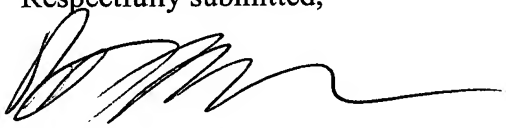
Applicants note that since all of the independent claims (1, 10, and 23) are patentable over the prior art, dependent claims 11-22, and 24-33 are also patentable, at least by reason of their dependency.

Finally, Applicants note that the claim amendments do not introduce new matter. All of the independent claims have been amended to recite that a join is performed on two database tables, which is described at page 24, line 12 through page 25, line 9, and FIGS. 4A-4C of the Application. Claim 10 has been amended to recite that the join is performed by correlating rows of one database with rows of another database, which is described at page 24, lines 24-26. Claim 1 recites that the databases store information about compounds, which is described at page 25, lines 10-20 of the Application. Moreover, claim 1 recites that the join is based on whether the level of similarity between one compound and another compound is within a neighborhood range, which is described at page 30, line 6-14 of the Application.

CONCLUSION

For all the foregoing reasons, Applicants submit that the claims, as amended, are patentable over the prior art of record. Applicants thus request that the 102 (e), 102(b) and 103(a) rejections of the pending claims be withdrawn, and submit that this case is now in condition for allowance. An early Notice of Allowance is earnestly solicited.

Respectfully submitted,



Peter M. Ullman
Registration No. 43,963

Dated: 4-9-02

WOODCOCK WASHBURN, LLP
One Liberty Place – 46th Floor
Philadelphia, PA 19103
Tel: (215) 568-3100
Fax: (215) 568-3439

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A computer-based method for facilitating the selection of chemical compounds, comprising:

receiving an identification of a target compound and a neighborhood range from a user;

performing a chemical similarity join to identify compounds of interest within said neighborhood range of said target compound, said chemical similarity join being performed on:

a first database that stores information about one or more compounds including said target compound; and

a second database that stores information about a plurality of compounds,

wherein said chemical similarity join combines a compound from said first database with a compound from said second database based on whether the level of similarity between the compound from the first database and the compound from the second database is within said neighborhood range; and

providing results of said chemical similarity join to the user.

10. (Twice amended) A computer-based method for retrieving information that is based upon at least one similarity among entities in [one or more] a plurality of databases, [comprising items with at least one item having at least one property similar to a target item,] the method comprising:

identifying a target item, wherein a first of the database includes a row that identifies the target item; [and]

using a computer to perform a fuzzy similarity join on the first database and a second database to correlate rows of the first and second databases that have similar properties; and

[to retrieve] retrieving at least one item from the [database] result of the join, wherein the retrieved item [that] comprises at least one item having a property similar to a property of the target item.

23. (Amended) A computer-based method for identifying, from a first database comprising chemical compounds, at least one chemical compound having at least one property similar to a target chemical compound, the method comprising:

identifying a property of a target chemical compound; and

using a computer to perform a chemical similarity join on the first database and a second database that includes the target compound to identify at least one database chemical compound in the first database that has a property similar to the property of the target chemical compound.